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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,778	02/19/2002	Peter Gaal	PA020248	7848

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Qualcomm Incorporated  
Patents Department  
5775 Morehouse Drive  
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EXAMINER
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PHU, SANH D

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/079,778

Applicant(s)

GAAL ET AL.

Examiner

Sanh D. Phu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 9-19,21,22 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-19,21,22 and 28-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### DETAILED ACTION

This Office Action is responsive to the Amendment filed on 3/21/05.

#### *Claim Rejections – 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 28–31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 28 recites the limitation “generating a full channel quality value and determining said full channel quality value exceeds a maximum value represented by a finite number of data bits; generating an incremental channel quality value and fixing said incremental value as an up-increment value, wherein said fixing is in response to said determining; multiplexing the

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incremental channel quality value with the full channel quality value to form channel information for transmission from said remote station to said base station". This limitation is not disclosed in the Specification. As being described in [1074–1075] on pages 20 and 21 of the Specification, the limitation is suggested to be changed to --generating a full channel quality value and determining said full channel quality value exceeds a maximum value represented by a finite number of data bits; generating an incremental channel quality value and fixing said incremental value as an up-increment value, wherein said fixing is in response to said determining; multiplexing the incremental channel quality value with the maximum value to form channel information for transmission from said remote station to said base station--.

Claim 30 is rejected with similar reasons set forth for claim 28.

Accordingly, the limitation "means for multiplexing the incremental channel quality value with the full channel quality value to form channel information for transmission from said remote station to said base station" is suggested to be changed to --means for multiplexing the incremental channel quality value

with the maximum value to form channel information for transmission from said remote station to said base station--.

Claim 29 recites the limitation "generating a full channel quality value and determining said full channel quality value is below a minimum value represented by a finite number of data bits; generating an incremental channel quality value and fixing said incremental value as a down-increment value, wherein said fixing is in response to said determining; multiplexing the incremental channel quality value with the full channel quality value to form channel information for transmission from said remote station to said base station". This limitation is not described in the Specification. As being described in [1074, 1078] on pages 20 and 22 of the Specification, the limitation is suggested to be changed to "generating a full channel quality value and determining said full channel quality value is below a minimum value represented by a finite number of data bits; generating an incremental channel quality value and fixing said incremental value as a down-increment value, wherein said fixing is in response to said determining; multiplexing the

incremental channel quality value with the minimum value to form channel information for transmission from said remote station to said base station”.

Claim 31 is rejected with similar reasons set forth for claim 29.

Accordingly, the limitation “means for multiplexing the incremental channel quality value with the full channel quality value to form channel information for transmission from said remote station to said base station” is suggested to be changed to --means for multiplexing the incremental channel quality value with the minimum value to form channel information for transmission from said remote station to said base station--.

*Claim Rejections – 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States

before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 9-12, 16, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Olofsson et al (6,167,031).

Regarding to claims 9, 16 and 21, see figure 5, and col. 9, line 9 to col. 10, line 17, Olofsson et al discloses a communication method and associated system comprising:

a first subchannel generation step/means (40, 56, 62), (accounted for “re-sync subchannel generation system”), for generating first channel quality values (RX-LEV) (accounted for “full channel quality values”) (see col. 9, lines 19-22); and

a second subchannel generation step/means (50, 56, 62), (accounted for “differential feedback subchannel generation system”), for generating second channel quality values (RX\_QUAL) as a measure of various levels of bit error rate, (accounted for “a plurality of incremental values) (see col. 9, lines 43-48),

wherein the first channel quality values and the second quality values are multiplexed to be transmitted by means (56, 62).

Regarding to claim 10, Olofsson et al discloses that the first channel quality values are coded multiplexed with the second channel quality values by means (62) (see figure 5).

Regarding to claim 11, Olofsson et al discloses that the second channel quality values are time multiplexed with the first channel quality values by means (56) (see figure 5).

Regarding to claims 12 and 22, Olofsson et al discloses a data subchannel means (inherently included) for generating a tail or flag signal (32, 31) (see Fig. 4), considered as a flag that indicates a start of a transition period of a data burst (see figure 4, and col. 8, lines 46–52) wherein the tail or flag signal is multiplexed with the first and second quality values to be transmitted by means (62) (see figure 5).

5. Claims 28–31 are rejected under 35 U.S.C. 102(e) as being anticipated by Lundby et al (2002/0110088), newly-cited.



The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding to claims 28 and 30, see figures 3A, 3B, 3C, and section [0042], Lundby et al discloses a method and associated system wherein the method/system (see figure 3B) comprises:

step/means (306) of generating a full channel quality value (cur\_C\_I) and determining said full channel quality value exceeds a maximum value (proj\_C\_I, QUALITY MESSAGE) (which is a finite number (e.g., 3 dB (see [0037], and therefore inherently represented in the system by a finite number of data bits) ;

step/means (308, 310, 312) of generating an incremental channel quality value (DIFF) and fixing said incremental value as an up-increment value (positive value), wherein said fixing is in response to said determining; and

step/means (304, 312) of multiplexing the incremental channel quality value with the QUALITY MESSAGE to form channel information for transmission from a remote station to a base station.

Regarding to claim 29 and 31, see figures 3A, 3B, 3C, and section [0042], Lundby et al discloses a method and associated system wherein the method/system (see figure 3B) comprises:

step/means (306) of generating a full channel quality value (cur\_C\_I) and determining said full channel quality value is below a minimum value (proj\_C\_I, QUALITY MESSAGE) (which is a finite number (e.g., 3 dB (see [0037], and therefore inherently represented in the system by a finite number of data bits) ;

step/means (308, 310, 312) of generating an incremental channel quality value and fixing said incremental value as an down-increment value (negative value), wherein said fixing is in response to said determining; and

step/means (304, 312) of multiplexing the incremental channel quality value with the QUALITY MESSAGE to form channel information for transmission from a remote station to a base station.

*Claim Rejections – 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 13–15 and 17–19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olofsson et al (6,167,031), in view of Gilhousen et al (5,103,459).

Regarding to claim 13, Olofsson et al does not disclose whether a Walsh spreading element is used in the first subchannel generation step/means and not used in the second subchannel generation step/means.

Using different a Walsh spreading coder to spread data in a channel is well-known in the art so that said data can be distinguished and decoded at a receiving end. For instance, Gilhousen et al uses different Walsh spreading coders (218) and (236) to spread respective sync channel data and paging

channel data so that these data can be distinguished and decoded at a receiving end (see figure 4a, and col. 17, line 13).

Therefore, it would have been obvious for a person skilled in the art, when building or carrying out Olofsson et al invention, upon his design preference, to spread either of the first quality values in the first subchannel generation step/means and the second quality values in the second subchannel generation step/means with a Walsh coder or both of them each with a different Walsh coders so that said first and second quality values would be able to be distinguished and decoded at a receiving end.

Regarding to claim 14, Olofsson et al does not disclose whether a common Walsh code is used in a data subchannel means and the second subchannel generation means.

Gilhousen et al teaches using a common Walsh code for coding signals at a transmitting site so that a receiving site, upon receiving said coded signals, can identify said transmitting site as the transmission source of said coded signals (see col. 8, lines 56–58 and col. 10, lines 6–8).

It would have been obvious for a person skilled in the art to use common Walsh code in Olofsson et al, as taught by Gilhousen et al, to spread data in a data subchannel means and the second channel quality values in the second subchannel generation means so that upon receiving said coded signals, would identify the transmission source of said coded signals.

Regarding to claim 15, as applied for claim 14, said common Walsh code can inherently be considered as an identification index.

Regarding to claim 18, Olofsson et al discloses that signals are generated and transmitted in frames (27) each having a plurality of slots (28) (see figure 3). He does not disclose said second channel quality values is generated over each slot in a frame. However, generating a certain data in a portion or portions of a transmission interval for transmissions is well-known in the art, as being upon the design preference and system requirement. For instance, Gilhousen et al generates different data (see figures 7 and 13) on a transmission interval with different distributions. Therefore, upon the design preference and system requirement, it would have been obvious for a person skilled in the art to implement Olofsson et al system in view of Gilhousen et al

to be capable of generating said second channel quality values over each slot in a frame.

Claim 17 is rejected with similar reasons set forth for claim 18.

Claim 19 is rejected with similar reasons set forth for claims 12 and 22.

*Response to Arguments*

8. Applicant's arguments filed on 3/21/05 have been fully considered but they are not persuasive.

The applicant mainly argues that with respect to claim 9, 16, and 21, Olofsson RX-LEVEL is not the "full channel quality value", as claimed wherein the full channel quality value is a measure of C/I (carrier to interference ratio); and Olofsson RX\_QUAL is not the "incremental value" or "incremental channel quality value", as claimed wherein the "incremental value" or "incremental channel quality value" is an indication (whether up or down) of the increment of the channel quality from a previous full channel.

The examiner respectfully disagrees. Note that the rejections are based on limitations recited in the claims. In the examination of the claims, the limitation "full channel quality value" is given a weight as "a channel quality

value” and therefore considered being disclosed by Olofsson received signal strength (RX-LEVEL) which indicates a channel/link quality (see Olofsson, col. 3, lines 50-58, col. 8, lines 18-26); and the limitation “incremental value” or “incremental channel quality value” is considered equivalent with Olofsson various incremental level values of bit error rate RX\_QUAL which also indicates a channel/link quality. Further, the descriptions “the full channel quality value is a measure of C/I (carrier to interference ratio)” and the “incremental value” or “incremental channel quality value” is an indication (whether up or down) of the increment of the channel quality from a previous full channel” are not found in the claims in order to make the claimed “full channel quality value” distinguishable from Olofsson RX-LEVEL, and to make the claimed “incremental value” or “incremental channel quality value” distinguishable from Olofsson RX\_QUAL.

Based on the above rationale, it is believed that the limitations of claims are still met and therefore, the rejections are still maintained.

*Conclusion*

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanh D. Phu whose telephone number is (571)272-7857. The examiner can normally be reached on 8:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The




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fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sanh D. Phu  
Examiner  
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SP

  
LEE NGUYEN  
PRIMARY EXAMINER